

Draft Cost Comparison Framework for EM analysis 11/18/2014

Goal: Compare the cost of monitoring that is currently achieved exclusively through the human observer program with a monitoring program where EM is integrated as a complement to the human observer portion. Conceptually, we need to compare the incremental cost of the part of the human observer program that EM would be replacing with the costs of the EM program.

	Human observer program	EM
Vessel costs	1.25% of exvessel revenue	No change – 1.25% of exvessel revenue
	Cost of human observer onboard when randomly selected <ul style="list-style-type: none"> • Food • Insurance • Opportunity cost of lost crewmember • Opportunity cost of lost IFQ client 	Cost of having EM unit onboard <ul style="list-style-type: none"> • Cost of vessel's obligation for leasing, installing, maintaining EM unit • Potential opportunity cost of having to return to port for broken equipment • Opportunity cost from additional handling procedures with EM unit • Opportunity cost of operating changes from EM unit (e.g., perhaps can't fish in bad visibility situation) • Potential opportunity cost of having to fish in/out of specific ports that have EM field service technician • Additional paperwork: development of a vessel monitoring plan, effort data (logbook, data sheet)
Program costs	Costs paid for through observer fee <ul style="list-style-type: none"> • Incremental cost of additional human observers (daily fee plus travel expenses) that would not be needed with EM deployment 	Cost of data capture (that is not borne by vessel) <ul style="list-style-type: none"> • Purchase/installation/maintenance of EM units • Training vessel operators on use/maintenance of EM equipment • Field service technicians in various ports • Data transmittal
	Government infrastructure (currently not charged to the observer fee, although could be) <ul style="list-style-type: none"> • Incremental cost of initial/maintenance training, debriefing, and time spent investigating questionable data reports for the incremental observers (noting infrastructure still needs to be maintained for some level of human observers) 	Cost of data review (could also be charged to the observer fee) <ul style="list-style-type: none"> • Data review costs • Training of reviewers • Administrative costs of enforcement appeals based on EM data Cost of administering a second monitoring program in addition to human observers